

REMARKS

By this amendment, claims 7-10 have been amended. Accordingly, claims 1-3, 5, and 7-26 are currently pending in the application, of which claims 1, 5, 15, and 25 are independent claims. The specification has been amended to correct a typographical error.

In view of the above amendments and the following Remarks, Applicant respectfully requests reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Interview Summary

Applicant thanks the Examiner for the telephonic interview conducted with Applicant's representative Richard Schachner on May 5, 2005. In the interview Applicant's representative tried to explain how each of the claims is supported by the specification and is clear. Although no agreement was reached, it is hoped that this reply will help to further clarify the reasons why Applicant believes that the claims should be allowed.

Claim Objection

In the Office Action, claims 7-10 were objected to as erroneously referring to cancelled claim 6 instead of claim 5. This oversight has been corrected by amendment.

Claims 7-10 have been amended to clarify the oversight in failing to change the dependencies when canceling claim 6. This amendment is made for the sole purpose of correcting. This amendment is not made for the purpose of avoiding prior art or narrowing the claimed invention, and no change in claim scope is intended. Therefore Applicant does not

intend to relinquish any subject matter by these amendments. Applicant respectfully submits that claims 7-10, as amended, overcome the stated objection. Accordingly, Applicant respectfully requests withdrawal of the objection for claims 7-10.

Rejections Under 35 U.S.C. §112, second paragraph

Claims 14-26 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. Applicant respectfully traverses this rejection for at least the following reasons.

With regard to claim 14, the Examiner claims that the claim is inconsistent with a particular paragraph of the specification. This does not mean that the claim is indefinite. The Examiner's attention is directed to Figure 5, in which microseconds are the unit of measurement.

In addition the specification has been amended to correct the typo observed by the Examiner. In view of Figure 5, this amendment does not add new matter.

With regard to claim 15, the Examiner has highlighted terms of the claim and indicated that he is unable to understand them. In particular, the Examiner asks "based on Fig. 5, assume that the gate line $V_{g(n-1)}$ has first, second, third, and fourth voltages. How many voltage levels are there in the gate line $V_{g(n)}$ associated with how many intervals, respectively." The answer is four levels with four intervals. Note that the claim recites "a gate driver sequentially applying the gate signal to the first and the second gate lines." In particular, the Examiner is directed to Figure 3. Figure 3 shows first and second gate lines. As shown there, the illustrated unit circuit may be easily reproduced for a second, for example, adjacent line. Thus, second elements of each of the elements shown in Figure 3 may be present in a display, and second waveforms may be present as well.

Applicant respectfully notes that Figure 5 shows at least five time intervals including: the period to the left of T1, T1, T2, T3, and the period to the right of T3. That those time periods are not designated does not make them new matter.

With regard to claim 16, the Examiner notes that Figure 3 does not show a second switching element. This is not a reason to describe the claim as indefinite. Additionally, the figure implies additional switching elements. For example, the denotation G_n and G_{n-1} are standard techniques for describing a unit element that can be repeated. One of ordinary skill in the art should understand from Figure 3 that G_n refers to the gate line of an arbitrary pixel n . In view of the claim language, one of ordinary skill would know that the second switching element could be found in, for example, a previous pixel $n-1$. Accordingly, there is nothing indefinite about the claim.

Additionally, there is no legal requirement that the second pixel be illustrated. Because the design of a second pixel can be readily inferred from the design of a single pixel, there is no need for cumulative illustration of a plurality of pixels. Indeed, since actual displays may include, for example, millions of pixels, it would be unfair to require an applicant to illustrate each of the pixels.

With regard to claim 17, the Examiner states that lines 3-6 are not clear. Applicant respectfully declines to adopt the Examiner's rephrasing of the claim language. The claim language is definite on its own. The Examiner is directed to the specification of the application, beginning at page 12 for a detailed description relating to Figure 5. For further clarification, the Examiner is directed to inspect Figure 3, which illustrates how a data voltage and two gate

voltages can influence the voltage of V_{com} . These illustrations are not meant, in any way, to limit the claims.

With regard to claims 18-24, the Examiner is directed to the discussion of claim 15 above.

With regard to claim 25, Applicant notes that there the Examiner first rehashes the comment regarding multiple switching elements. For that explanation, the Examiner is directed to the explanation provided above with regard to claim 16. The Examiner next attempts to read various elements from a preferred embodiment into the claims. Applicant notes that this is an improper approach. The claims speak for themselves. In this case, the claims are definite.

The Examiner seems to believe that “first, second, third” and the like refer to sequential temporal order. No such limitation is present or intended in the claims. Thus, for example, the voltage in the reset interval T2 could be an example of a “first voltage,” the voltage in the overshoot interval T3 could be an example of a “second voltage,” and the voltage in the reset interval T1 could be an example of a “third voltage.”

The Examiner mentions the language “a polarity of the third voltage with respect to the second voltage is the same as the polarity of the data voltage with respect to the common voltage.” This claim language is definite, and speaks for itself. For example, if the data voltage is higher than the common voltage (viewed polarly) the third voltage would be similarly higher than the second voltage (also viewed polarly).

With regard to claim 26, the Examiner is directed to the explanation regarding claim 25, above.

Applicant respectfully submits that all claims fully comply with the requirements of 35 U.S.C. §112, second paragraph. Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §112, second paragraph rejection of claims 15-26.

Rejections Under 35 U.S.C. §103

Claims 1-3, 5, and 7-13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,115,018 issued to Okumura, *et al.* (“*Okumura*”) in view of U.S. Patent No. 5,841,419 issued to Maltese, *et al.* (“*Maltese*”). Applicant respectfully traverses this rejection for at least the following reasons.

In order to render a claim obvious, the combination of cited references must teach each and every element of the claimed invention and must provide teaching, motivation or suggestion to combine. Nat'l Steel Car, Ltd. v. Canadian Pac. Rwy., 357 F.3d 1319, 1337 (Fed. Cir. 2004) (citing Ecolochem, Inc. v. S. Cal. Edison Co., 227 F.3d 1361, 1371 (Fed. Cir. 2000)). This motivation must be based on the knowledge in the art, not knowledge provided by the application under examination, because such hindsight reconstruction is forbidden. In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

The examiner admits that the claim recites, and the primary reference does not teach at least “a reset interval for converting a grayscale level of a first liquid crystal capacitor connected to a subsequent gate line through a first extreme grayscale level, a gate-on interval, and an overshoot interval following the gate-on interval and having the polarity of a data voltage; a data driver for applying the data voltage to the second liquid crystal capacitor of the liquid crystal

panel according to the control signals of the timing controller.” (Office Action, p. 7) (inferences drawn from ellipsis used by the Examiner).

Assuming, *arguendum*, that *Maltese* remedies the deficiencies of *Okumura*, there is no teaching, motivation, or suggestion to combine the references. The Examiner asserts that the motivation would be to modify would be to obtain the maximum operation speed of the panel. The Examiner cites *Maltese*, Col. 7, ll. 52-55. That portion of the reference states that **selection** voltages should have maximum amplitude to improve operation speed. But, the claims of the present application currently only deal with **data** voltages. *Cf. also*, Figure 2 (in which data voltages are not even shown) and Co. 8, ll. 46-47 (explicitly stating the same absence of illustration).

The selection signal art is non-analogous to the data signal art, because the data voltages are typically intended to act on the liquid crystal capacitor (or other visual element), whereas the selection signal is typically intended to operate on a switching element such as a transistor.

The Examiner has not provided any other teaching, motivation, or suggestion. Thus, it does not appear that there is any teaching, motivation, or suggestion to combine the references.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claims 1-3, 5, and 7-13. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicant respectfully submits that independent claims 1 and 5 and all the claims that depend from them are allowable.

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Reply to Office Action of February 8, 2005


CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,


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